



NTSB National Transportation Safety Board

Office of Highway Safety

Heavy Truck Aggressivity

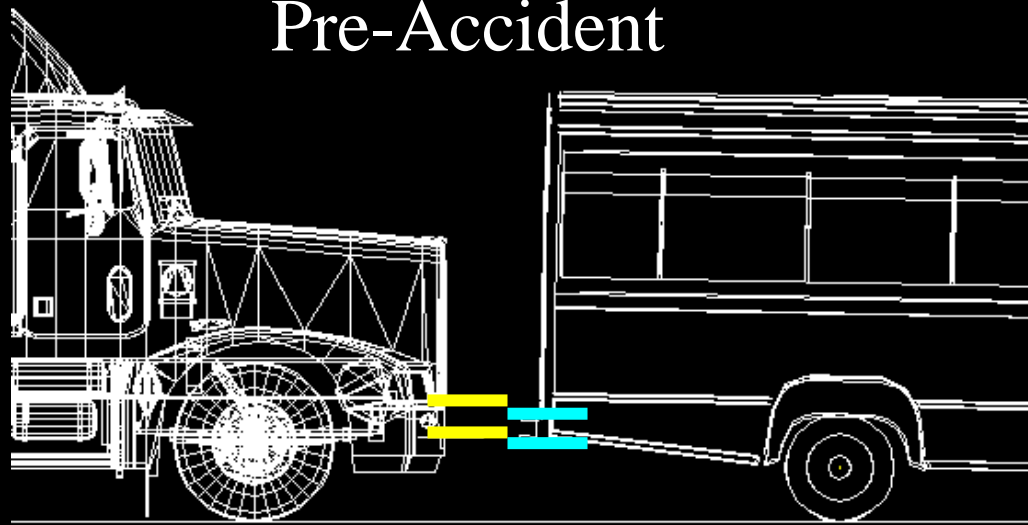


Office of Research and Engineering

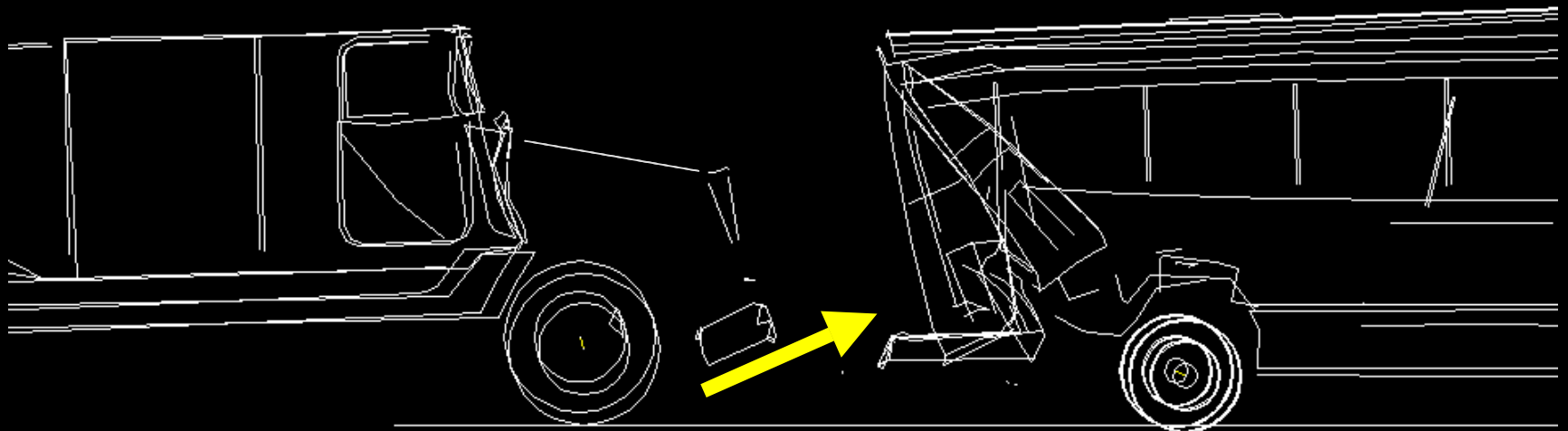
Heavy Truck Aggressivity

- Defined as differences in
 - Stiffness
 - Geometry
 - Weight
 - Tractor trailer = almost 80,000 lbs
 - Specialty bus = less than 14,000 lbs
- No U.S. requirements addressing heavy truck aggressivity
- Requirements for passenger cars

Pre-Accident



Post-Accident



Large Truck Accidents

- Not compatible with other vehicles
- Almost 5,000 killed
- Over 120,000 injured
- 85% of fatalities in other vehicle
- Heavy trucks aggressive to many vehicles

Freightliner vs. Specialty Bus



- Weight difference
- Impact speed
- Stiffness difference
- Geometric mismatch
- Leads to
 - Override and intrusion
 - Passenger deaths

Reduced Aggressivity

- European regulations
 - Front underride
 - Rear underride
- Promising research
 - Energy-absorbing front structures
 - Bumpers designed as deflectors



Vehicle Incompatibility

- NHTSA's goal to reduce highway fatalities
- Design initiatives necessary to reduce collision severity
- Heavy trucks not included in research, testing for vehicle compatibility



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